IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Raoul Kopelman *et al.*		
Serial No.:	10/630,928	Group No.:	2877
Filed:	7/30/03	Examiner:	Evans, Fannie
Entitled:	**Optical Sensors For The Detection Of Nitric Oxide**		

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA. 22313-1450

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8(a)(1)(i)(A)

I hereby certify that this correspondence (along with any referred to as being attached or enclosed) is, on the date shown below, being deposited with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA. 22313-1450.

Dated: December 22, 2004 By: _____
Christopher J. Collins

Sir or Madam:

The citations listed below, copies attached, may be material to the examination of the above-identified application, and are therefore submitted in compliance with the duty of disclosure defined in 37 C.F.R. §§ 1.56 and 1.97. The Examiner is requested to make these citations of official record in this application.

The following printed publications are referred to in the body of the specification:

- U.S. Patents Nos. 5,361,314 to Kopelman *et al.*;
- U.S. Patents Nos. 5,627,922 to Kopelman *et al.*;
- Blyth *et al.*, "Sol-Gel Encapsulation of Metalloproteins for the Development of Optical Biosensors for Nitrogen Monoxide and Carbon Monoxide," *Analyst*, 120:2725-2730 (1995);
- Diodati *et al.*, "Complexes of Nitric Oxide with Nucleophiles as Agents for the Controlled Biological Release of Nitric Oxide: Antiplatelet Effect," *Thrombosis and Haemostasis*, 70:654-658 (1993);

- Marletta *et al.*, "Unraveling the biological significance of nitric oxide," *Biofactors*, 2:219-225 (1990);
- Oliveira *et al.*, "A Heme-binding Protein from Hemolymph and Oocytes of the Blood-sucking Insect, *Rhodnius prolixus*," *J. Biol. Chem.* 270:10897-10901 (1995);
- Ribeiro *et al.*, "Reversible Binding of Nitric Oxide by a Salivary Heme Protein from a Bloodsucking Insect," *Science*, 260:539-541 (1993);
- Snyder, "Janus faces of nitric oxide," *Nature*, 364:577 (1993);
- Stone and Marletta, "Soluble Guanylate Cyclase from Bovine Lung: Activation with Nitric Oxide and Carbon Monoxide and Spectral Characterization of the Ferrous and Ferric States," *Biochemistry*, 33:5636-5640 (1994);
- Tsutsui and Mueller, "A protein with multiple Heme-binding sites from rabbit Serum," *J. Biol. Chem.*, 257: 3925-3931 (1982);
- Valenzuela *et al.*, "A Salivary Nitrophorin (Nitric-Oxide-Carrying Hemoprotein) In The Bedbug *Cimex lectularius*," *J. Exper. Biol.*, 198:1519-1526 (1995); and
- Zhou and Arnold, "Response Characteristics and Mathematical Modeling for a Nitric Oxide Fiber-Optic Chemical Sensor," *Anal. Chem.*, 68:1748-1754 (1996).

Applicants have become aware of the following printed publications which may be material to the examination of this application:

- Garbor and Allon, "Spectro Fluorometric Method for NO Determination", *Anal. Biochem.*, 220:16-19 (1994). This publication discloses a spectroscopic method for measuring NO in solution, said method utilizing nitrosothiols. Additionally, the publication suggests the use of this method applied to the tips of optical fibers. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.

- Godwin and Berg, "A Fluorescent Zinc Probe Based on Metal-Induced Peptide Folding", *J. Am. Chem. Soc.* 118:6514-6515 (1996). This publication discloses a zinc finger consensus sequence modified with two fluorescent dyes to visualize zinc binding. The modified protein is intended for use as an *in vivo* indicator of zinc (ZnII). The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Handley, *et al.* "Colloidal gold-low density lipoprotein conjugates as membrane receptor probes", *Proc Nat Acad Sci, USA* 78:368-371 (1981). This publication discloses a method for conjugating low density lipoproteins with colloidal gold. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- De Roe, *et al.* "A model of protein - colloidal gold interactions", *J. Histochem. Cytochem.* 35:1191-1198 (1987). This publication discloses a model for the interaction of proteins with colloidal gold particles. Using Scathard analysis, it analyses the physical parameters of the interaction. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Handley, *et al.* "Hepatic binding and internalization of low density lipoprotein-gold conjugates in rats treated with 17α-ethinylestradiol", *J Cell Biol.* 90:778-787 (1981). This publication discloses the results of a study investigating the influence of estrogen on the uptake of low density lipoproteins (LDL) using LDL-gold conjugates. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.

- Geoghegan and Ackerman, "Adsorption of horseradish peroxidase, ovomuccoid and anti-immunoglobulin to colloidal gold for the indirect detection of concanavalin A, wheat germ agglutinin and goat anti-human immunoglobulin G on cell surfaces at the electron microscopic level: A new method, theory and application", *J. Histochem. Cytochem.* 25:1187-1200 (1977). The publication discloses the use of colloidal gold-protein conjugates for staining with the electron microscope. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Broderick, *et al.* "Evidence for retention of biological activity of a non-heme iron enzyme adsorbed on a silver colloid: A surface-enhanced resonance Raman scattering study", *Biochemistry* 32:13771-13776 (1993). This publication discloses the use of surface-enhanced resonance Raman spectroscopy (SERRS) on non-heme iron enzymes. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Grabar, *et al.* "Kinetic control of interparticle spacing in Au colloid-based surfaces: Rational nanometer-scale architecture", *J. Am. Chem. Soc.*118:1148-1153 (1996). This publication discloses the absorbance spectrum and kinetics of the covalent attachment of colloidal gold to surface-confined organosilane films. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Freeman, *et al.* "Self-assembled metal colloid monolayers: An approach to SERS substrates", *Science* 267:1629-1632 (1995). This publication discloses the use of metal colloid monolayers in surface-enhanced Raman scattering (SERS). The publication does not disclose an optical fiber comprising a tip,

said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.

- Graber, *et al.* "Preparation and characterization of Au colloid monolayers" *Anal. Chem.* 67:735-743 (1995). This publication discloses the design and characterization of two-dimensional arrays of colloidal Au particles. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Malinski and Czuchajowski, "Nitric Oxide Measurement by Electrochemical Methods" in Methods in Nitric Oxide Research, Freelisch and Stamler, eds., John Wiley and Sons, pp. 319-339 (1996). This publication reviews techniques that utilize electrochemical methods for the detection and quantification of NO. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Moncada, *et al.*, "Nitric Oxide: Physiology, pathology and pharmacology" *Pharm Reviews* 43:109-142 (1991). This publication discloses physiological properties of NO. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Ding, *et al.*, "Release of reactive nitrogen intermediates and reactive oxygen intermediates from mouse peritoneal macrophages" *J. Immunol.* 141:2407-2412 (1988). This publication discloses the ability of 12 cytokines to induce NO release from macrophages. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.

- Xia and Zweier, "Substrate control of free radical generation from xanthine oxidase in the postischemic heart" *J. Biol. Chem.* 270: 18797-18803 (1995). This publication discloses the quantification of free radicals generated from xanthine oxidase. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Zweier, *et al.*, "Measurement and characterization of free radical generation in reoxygenated human endothelial cells" *Am. J. Physiol.* 266:C700-C708 (1994). This publication discloses the measurement and characterization of oxygen free radicals and methods for measuring them. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Bartsch, *et al.*, "Preparation and properties of *Rhodospirillum rubum* cytochromes c_2, cc' and $b_{557.5}$ and flavin mononucleotide protein" *J. Biol. Chem* 246:4489-4406 (1971). This publication describes multiple isoelectrically distinguishable forms of cytochromes. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Ren, *et al.* "Atomic structure of a cytochrome c' with an unusual ligand-controlled dimer dissociation at 1·8Å resolution" *J. Mol. Biol.* 234:433-445 (1993). This publication discloses crystallographic structure of cytochrome c' at 1·8Å resolution. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.

- Taniguchi and Kamen, "On the anomalous interactions of ligands with *Rhodospirillium* haem protein (RHP)" *Biochimica et Biophysica Acta* 74:438-455 (1963). This publication discloses the results of reactions between NO and ferri-RHP, an isolation co-product of cytochrome c'. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Caffery, *et al.* "NMR assignment of *Rhodobacter capsulatus* ferricytochrome c', a 28kDa paramagnetic heme protein" *Biochemistry* 34:5904-5912 (1995). This publication discloses that cytochrome c' binds NO in a noncooperative manner. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Yoshimura, *et al.* "Identification of heme axial ligands of cytochrome c' from *Alcaligenes sp.* N.C.I.B. 11015" *Biochimica et Biophysica Acta* 831:267-274 (1985). This publication discloses the spectral properties of both ferric and ferrous cytochromes c'. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Yoshimura, *et al.* " Spectral properties of nitric oxide complexes of cytochrome c' from *Alcaligenes sp.* NCIB 11015" *Biochemistry* 25:2436-2442 (1986). This publication discloses the spectral properties of the NO dervatives of cytochrome c' containing ^{14}NO and ^{15}NO. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.

- Malinski and Taha, "Nitric oxide release from a single cell measured *in situ* by a porphyrinic-based microsensor" *Nature* 358:676-678 (1992). This publication discloses a porphyrinic microsensor consisting of a p-type semiconducting polymer porphrin and a cationic exchanger on a carbon fiber. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Vallance, *et al.*, "Direct measurement of nitric oxide in human beings" *Lancet* 346:153-154 (1995). This publication discloses the use of an electrochemical microsensor to measure the NO concentration in the blood vessels of volunteers. The microsensor consisted of porphyrinic sensors. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Kiechile and Malinski, "Indirect detection of nitric oxide effects: A review" *Ann. Clin. Lab. Sci* 26:501-511 (1996). This publication discloses indirect methods of detecting NO. The methods disclosed include location of NO synthase enzyme, bioassays, inhibition of NO synthase activity, iron responsive element binding protein activity and production of nitrate/nitrite. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Pariente, *et al.* "Chemically modified electrode for the selective and sensitive determination of nitric oxide (NO) *in vitro* and in biological systems" *J. Electroanalyticl Chem.* 379:191-197 (1994). This publication discloses the use of a polycrystalline platinum electrode for measuring NO. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a

layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.

- Shibuki, "An electrochemical microprobe for detecting nitric oxide release in brain tissue" *Neurosci. Res.* 9:69-76 (1990). This publication discloses a platinum electrode to measure NO in the brain. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Zhang, *et al.* "Electrochemical reduction of nitrite and nitric oxide catalyzed by an iron-alizarin complex adsorbed on a graphite electrode" *Inorg. Chem.* 33:1392-1398 (1994). This publication discloses the utilization of a chelating alizarin ligand derivative that binds Fe^{III} ions at an electrode surface to produce an electrocatalyst for $[NO_2]$ and NO reduction that can be used to measure NO. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Dave, *et al.* "Sol-gel encapsulation methods for biosensors" *Anal. Chem.* 66:1120A-1127A (1994). This publication discloses the use of optical-quality silica monoliths (*i.e.*, glass blocks) in which proteins to be used as biosensors have been encapsulated. For the measurement of NO, manganese myoglobin was used as the biosensor molecule. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- Broderick and Taha, "Nitric oxide detection using a popular electrochemical sensor: Recent applications and the development of a new generation of highly sensitive and selective NO-microsensors." pp. 2-18, Presented at the satellite symposium, 4th IBRO World Congress of Neuroscience, Kyoto, Japan, 1995,

World Precision Instruments. This publication discloses a commercially available NO sensor. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.

- Ichimori, *et al.* "Practical nitric oxide measurement employing a nitric oxide-selective electrode" *Rev. Sci. Instrum.* 65:2714-2718 (1994). This publication discloses platinum probe encased in a glass micropipette for measuring NO. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.

The following references were cited by the examiner in the parent case, application number 09/365,487 filed on 8/21/1999 now patent number 6,636,652 issued on 10/21/2003:

- U.S. Patent No. 4,621,052 to Sugimoto discloses a process for the production of human epidermal growth factor in relation to mass production. The publication does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives;
- U.S. Patent No. 6,272,262 to Kopelman *et al.* discloses an optical fiber tip comprising a nitric oxide binding compound. The reference does not teach optical fiber tips lacking a binding compound. The reference does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- U.S. Patent No. 6,002,817 to Kopelman *et al.* discloses an optical fiber tip comprising a nitric oxide binding compound. The reference does not teach optical fiber tips lacking a binding compound. The reference does not disclose

an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.

- U.S. Patent No. 5,606,638 to Tymianski *et al.* discloses a scintillating composition designed to convert radiation into light for configuration into optical fibers. The reference does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.
- U.S. Patents Nos. 6,287,765 to Cubicciotti discloses the synthesis of multimolecular heteropolymers designed for adaptation to construct molecular machines. The reference does not disclose an optical fiber comprising a tip, said tip comprising a fluorescent compound attached to metal, wherein said metal is configured in a layer, said fluorescent compound selected from the group consisting of fluorescein and fluorescein derivatives.

This Information Disclosure Statement under 37 C.F.R. §§ 1.56 and 1.97 is not to be construed as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that any one or more of these citations constitutes prior art.

Dated: December 22, 2004

Peter G. Carroll
Registration No. 32,837

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FORM PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No.: UM-08240	Serial No.: 10/630,928
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary)		Applicant: Raoul Kopelman *et al.*	
(37 CFR § 1.98(b))		Filing Date: 07/30/03	Group Art Unit: 2877

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date
	1	4,621,052	11/04/86	Sugimoto	435	68	6/14/84
	2	5,361,314	11/01/94	Kopelman *et al.*	385	12	9/04/92
	3	5,606,638	2/25/97	Tymianski et al.	385	143	12/26/95
	4	5,627,922	5/06/97	Kopelman *et al.*	385	12	3/02/95
	5	6,002,817	12/14/99	Kopelman *et al.*	385	12	9/29/97
	6	6,272,262	8/07/01	Kopelman *et al.*	385	12	7/06/99
	7	6,287,765	9/11/01	Cubicciotti	435	6	5/20/98

OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)

	8	Blyth *et al.*, "Sol-Gel Encapsulation of Metalloproteins for the Development of Optical Biosensors for Nitrogen Monoxide and Carbon Monoxide," *Analyst*, 120:2725-2730 (1995)
	9	Diodati *et al.*, "Complexes of Nitric Oxide with Nucleophiles as Agents for the Controlled Biological Release of Nitric Oxide: Antiplatelet Effect," *Thrombosis and Haemostasis*, 70:654-658 (1993)
	10	Marletta *et al.*, "Unraveling the biological significance of nitric oxide," *Biofactors*, 2:219-225 (1990)
	11	Oliveira *et al.*, "A Heme-binding Protein from Hemolymph and Oocytes of the Blood-sucking Insect, *Rhodnius prolixus*," *J. Biol. Chem.* 270:10897-10901 (1995)
	12	Ribeiro *et al.*, "Reversible Binding of Nitric Oxide by a Salivary Heme Protein from a Bloodsucking Insect," *Science*, 260:539-541 (1993)
	13	Snyder, "Janus faces of nitric oxide," *Nature*, 364:577 (1993)
	14	Stone and Marletta, "Soluble Guanylate Cyclase from Bovine Lung: Activation with Nitric Oxide and Carbon Monoxide and Spectral Characterization of the Ferrous and Ferric States," *Biochemistry*, 33:5636-5640 (1994)
	15	Tsutsui and Mueller, "A protein with multiple Heme-binding sites from rabbit Serum," *J. Biol. Chem.*, 257: 3925-3931 (1982)
	16	Valenzuela *et al.*, "A Salivary Nitrophorin (Nitric-Oxide-Carrying Hemoprotein) In The Bedbug Cimex lectularius," *J. Exper. Biol.*, 198:1519-1526 (1995)
	17	Zhou and Arnold, "Response Characteristics and Mathematical Modeling for a Nitric Oxide Fiber-Optic Chemical Sensor," *Anal. Chem.*, 68:1748-1754 (1996)
	18	Garbor and Allon, "Spectro Fluorometric Method for NO Determination", *Anal. Biochem.*, 220:16-19 (1994)
	19	Godwin and Berg, "A Fluorescent Zinc Probe Based on Metal-Induced Peptide Folding", *J. Am. Chem. Soc.* 118:6514-6515 (1996)
	20	Handley, *et al.* "Colloidal gold-low density lipoprotien conjugates as membrane receptor probes", *Proc Nat Acad Sci, USA* 78:368-371 (1981)
	21	De Roe, *et al.* "A model of protein - colloidal gold interactions", *J. Histochem. Cytochem.* 35:1191-1198 (1987)
	22	Handley, *et al.* "Hepatic binding and internalization of low density lipoprotein-gold conjugates in rats treated with 17α-ethinylestradiol", *J Cell Biol.* 90:778-787 (1981)

Examiner:	Date Considered:

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No.: UM-08240	Serial No.: 10/630,928
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary)		Applicant: Raoul Kopelman *et al.*	
(37 CFR § 1.98(b))		Filing Date: 07/30/03	Group Art Unit: 2877

OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)

	23	Geoghegan and Ackerman, "Adsorption of horseradish peroxidase, ovomuccoid and anti-immunoglobulin to colloidal gold for the indirect detection of concanavalin A, wheat germ agglutinin and goat anti-human immunoglobulin G on cell surfaces at the electron microscopic level: A new method, theory and application", *J. Histochem. Cytochem.* 25:1187-1200 (1977).
	24	Broderick, *et al.* "Evidence for retention of biological activity of a non-heme iron enzyme adsorbed on a silver colloid: A surface-enhanced resonance Raman scattering study", *Biochemistry* 32:13771-13776 (1993)
	25	Grabar, *et al.* "Kinetic control of interparticle spacing in Au colloid-based surfaces: Rational nanometer-scale architecture", *J. Am. Chem. Soc.*118:1148-1153 (1996)
	26	Graber, *et al.* "Preparation and characterization of Au colloid monolayers" *Anal. Chem.* 67:735-743 (1995)
	27	Malinski and Czuchajowski, "Nitric Oxide Measurement by Electrochemical Methods" in Methods in Nitric Oxide Research, Freelisch and Stamler, eds., John Wiley and Sons, pp. 319-339 (1996)
	28	Moncada, *et al.*, "Nitric Oxide: Physiology, pathology and pharmacology" *Pharm Reviews* 43:109-142 (1991)
	29	Ding, *et al.*, "Release of reactive nitrogen intermediates and reactive oxygen intermediates from mouse peritoneal macrophages" *J. Immunol.* 141:2407-2412 (1988)
	30	Xia and Zweier, "Substrate control of free radical generation from xanthine oxidase in the postischemic heart" *J. Biol. Chem.* 270: 18797-18803 (1995)
	31	Zweier, *et al.*, "Measurement and characterization of free radical generation in reoxygenated human endothelial cells" *Am. J. Physiol.* 266:C700-C708 (1994)
	32	Bartsch, *et al.*, "Preparation and properties of *Rhodospirillum rubum* cytochromes c_2, cc' and $b_{557.5}$ and flavin mononucleotide protein" *J. Biol. Chem* 246:4489-4406 (1971)
	33	Ren and Meyer, "Atomic structure of a cytochrome c' with an unusual ligand-controlled dimer dissociation at 1·8Å resolution" *J. Mol. Biol.* 234:433-445 (1993)
	34	Taniguchi and Kamen, "On the anomalous interactions of ligands with *Rhodospirillium* haem protein (RHP)" *Biochimica et Biophysica Acta* 74:438-455 (1963)
	35	Caffery, *et al.* "NMR assignment of *Rhodobacter capsulatus* ferricytochrome c', a 28kDa paramagnetic heme protein" *Biochemistry* 34:5904-5912 (1995)
	36	Yoshimura, *et al.* "Identification of heme axial ligands of cytochrome c' from *Alcaligenes sp.* N.C.I.B. 11015" *Biochimica et Biophysica Acta* 831:267-274 (1985)
	37	Yoshimura, *et al.* " Spectral properties of nitric oxide complexes of cytochrome c' from *Alcaligenes sp.* NCIB 11015" *Biochemistry* 25:2436-2442 (1986)
	38	Malinski and Taha, "Nitric oxide release from a single cell measured *in situ* by a porphyrinic-based microsensor" *Nature* 358:676-678 (1992)
	39	Vallance, *et al.*, "Direct measurement of nitric oxide in human beings" *Lancet* 346:153-154 (1995)
	40	Kiechile and Malinski, "Indirect detection of nitric oxide effects: A review" *Ann. Clin. Lab. Sci* 26:501-511 (1996)
	41	Pariente, *et al.* "Chemically modified electrode for the selective and sensitive determination of nitric oxide (NO) *in vitro* and in biological systems" *J. Electroanalyticl Chem.* 379:191-197 (1994)
	42	Shibuki, "An electrochemical microprobe for detecting nitric oxide release in brain tissue" *Neurosci. Res.* 9:69-76 (1990)
	43	Zhang, *et al.* "Electrochemical reduction of nitrite and nitric oxide catalyzed by an iron-alizarin complexone adsorbed on a graphite electrode" *Inorg. Chem.* 33:1392-1398 (1994)
	44	Dave, *et al.* "Sol-gel encapsulation methods for biosensors" *Anal. Chem.* 66:1120A-1127A (1994)
	45	Broderick and Taha, "Nitric oxide detection using a popular electrochemical sensor: Recent applications and the development of a new generation of highly sensitive and selective NO-microsensors." pp. 2-18, Presented at the satellite symposium, 4th IBRO World Congress of Neuroscience, Kyoto, Japan, 1995, World Precision Instruments
	46	Ichimori, *et al.* "Practical nitric oxide measurement employing a nitric oxide-selective electrode" *Rev. Sci. Instrum.* 65:2714-2718 (1994)

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